**Amendments to the Claims**

This listing of claims supersedes all prior listing of claims.

1-2.    (cancelled)

3.      (currently amended) The encoder of claim ~~2~~20, wherein the input data signal is two-dimensional.

4.      (currently amended) The encoder of claim 3, wherein ~~a~~the predictor extracts higher frequency subbands that result from a first-level two-dimensional decomposition performed by the multi-level analysis filter bank from subbands obtained from higher levels of a two-dimensional decomposition performed by the analysis bank.

5.      (currently amended) The encoder of claim 4, wherein the two-dimensional decomposition is performed along one dimension first by processing the multi-level analysis filter bank as a separable transform.

6.      (currently amended) The encoder of claim 4, wherein full decimation is performed prior to ~~a~~the predictor that extracts cross-subband dependence.

7.      (currently amended) The encoder of claim 5, wherein full decimation is performed prior to ~~a~~the predictor that extracts cross-subband dependence.

8.      (currently amended) The encoder of claim 4, wherein full decimation is performed after ~~a~~the predictor to minimize spatial location variance introduced by decimation.

9.      (currently amended) The encoder of claim 4, wherein partial decimation is performed after both the multi-level analysis filter bank and the predictor for reducing the number of computations by the multi-level analysis filter bank and decimation.

10.     (original) The encoder of claim 5, wherein full decimation is performed after the predictor to minimize spatial location variance introduced by the decimation.

11.     (currently amended) The encoder of claim 5, wherein partial decimation is performed after both the <u>multi-level</u> analysis filter <u>bank</u> and the predictor for reducing the number of computations by the <u>multi-level</u> analysis filter <u>bank</u> and the decimation.

12-19. (cancelled)

20.     (currently amended) An encoder for encoding an input data signal comprising:

        a multi-level analysis filter bank for decorrelating an input data signal;

        a plurality of decimators for down sampling the filtered input data signal; ~~and~~

        <u>a predictor to extract cross-subband dependence from the down sampled signal; and</u>

        a compressor including a quantizer and coder for reducing the amount of down sampled data <u>only</u> from ~~the~~ second and higher levels of wavelet decomposition.

21.     (original) An encoder of claim 20, wherein the output of the compressor is transmitted to a receiver for decoding the compressed data signal.

22-24. (cancelled)

25.     (currently amended) A decoder for recovering a compressed data signal comprising:

        a de-compressor including an inverse quantizer and inverse coder for expanding the ~~reduced amount of received data~~<u>compressed data signal</u>;

        a plurality of interpolators for upsampling ~~a~~<u>the de-</u>compressed data signal;

        a multi-level synthesis filter bank for performing an inverse wavelet transformation filter bank<u> on the upsampled data</u>; and

        a predictor for extracting higher-frequency subbands corresponding to ~~the~~<u>a</u> first-level decomposition of an analysis wavelet filter bank.

26.     (original) The decoder in claim 25 further comprising a means for conveying the recovered data signal.

27-28.  (cancelled)

29.     (currently amended) A decoder for recovering a compressed data signal comprising:

a de-compressor including an inverse quantizer and inverse coder for expanding the ~~reduced amount of received data~~compressed data signal;

a plurality of full interpolators for upsampling the de-compressed data signal prior synthesis filtering~~,~~;

a multi-level synthesis filter bank for performing an inverse wavelet transformation filter bank on the upsampled data signal; and

a predictor for extracting cross-subband correlations.

30.     (original) The decoder in claim 29, wherein the predictor extracts higher frequency subbands corresponding to the first-level decomposition of an analysis wavelet filter bank.

31.     (currently amended) A decoder for recovering a compressed data signal comprising:

a de-compressor including an inverse quantizer and inverse coder for expanding the ~~reduced amount of received data~~compressed data signal;

a plurality of partial interpolators for partially upsampling ~~a~~the de-compressed data signal prior synthesis filtering;

a multi-level synthesis filter bank for performing an inverse wavelet transformation filter bank on the upsampled data signal;

a predictor for extracting cross-subband correlations, and

a plurality of partial interpolators for partially upsampling the extracted data from the predictor.

32.     (original) The decoder in claim 31, wherein the predictor extracts higher frequency subbands corresponding to the first-level decomposition of an analysis wavelet filter bank.

33.    (currently amended) An encoding - decoding system for processing data signals comprising:

an encoder including:

a multi-level analysis filter ~~bank~~ for decorrelating an input data signal;

a plurality of decimators for down sampling ~~a filtered input data signal~~ the decorrelated signal;

a quantizer for processing only the subbands from ~~the~~ second and higher levels of wavelet decomposition;

a coder for compressing only the subbands from the second and higher levels of wavelet decomposition;

a decoder including:

~~an inverse quantizer for decompressing received subbands;~~

an inverse coder for decompressing received compressed subbands;

an inverse quantizer for further decompressing the decompressed subbands;

a plurality of interpolators for upsampling the further~~received~~ de-compressed ~~data signal~~subbands;

a multi-level synthesis filter bank for performing an inverse wavelet transformation filter bank on the upsampled subbands; and

a predictor for extracting the subbands from ~~the~~ first level decomposition that were not transmitted based on data of their spatially correlated subbands from other levels of decomposition.